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SHORT REPORT

Mycotic Aneurysm of the Ulnar Artery Presenting as a Late Complication of Fulminant Infective Endocarditis

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We present a case of a mycotic ulnar artery aneurysm presenting after treatment for bacterial endocarditis. An 82-year man presented with back pain, a new heart murmur and hepatomegaly. A diagnosis of discitis and bacterial endocarditis was made. The patient was treated with benzylpenicillin and gentamycin. Two weeks after starting antibiotics he developed a fever and tenderness in his right forearm. The pain and fever resolved. A week later the pain returned, he became generally unwell and a pulsatile swelling developed in his right forearm. Ultrasound showed a 3 cm aneurysm of the ulnar artery. No other aneurysms were found. The aneurysm was resected and the inflow ligated. Despite appropriate antibiotic therapy, mycotic aneurysms may still develop secondary to fulminant infective endocarditis even after blood cultures have been sterile.

Keywords: Mycotic aneurysm; Infective endocarditis.

Introduction

In the pre-antibiotic era mycotic aneurysms were a common sequelae of infective endocarditis. They were often multiple and 70% occurred in a body cavity (intra-cranial, intra-abdominal and intra-thoracic). At these sites the aneurysms presented late and frequently led to death by rupture and uncontrolled bleeding.[1] Current treatment of infective endocarditis with potent antibiotics results in eradication before complications due to septic emboli occur. Therefore, clinical suspicion of embolomycotic aneurysms has decreased dramatically.

We present a case of mycotic aneurysm of the ulnar artery diagnosed 4 weeks after commencing antibiotic treatment for bacterial endocarditis. There has previously been a single report of ulnar artery mycotic aneurysm proximal to the wrist.[2]

Case

An 82-year man presented with sharp back pain of 7 weeks duration. This was associated with feverish symptoms and weight loss. He had a history of rheumatic fever.

On examination he was apyrexial. There were no peripheral stigmata of disease. His pulse was irregular and ECG showed frequent ectopics. There was a new pan-systolic murmur and hepatomegaly.

Magnetic resonance imaging showed L2/L3 discitis with vertebral body involvement. X-ray guided biopsy later grew *viridans Streptococcus* and blood cultures were positive for *Streptococcus mitis*. Echocardiography showed vegetations on the mitral valve and severe mitral regurgitation. A diagnosis of bacterial endocarditis was made. The patient was started on a course of intravenous benzylpenicillin and gentamycin for 6 weeks followed by 6 weeks of oral antibiotics. On maxillofacial assessment there were generalized dental caries which were cleared.

Two weeks after starting antibiotics the patient developed a fever and tenderness in his right forearm. After 2 days the pain resolved and he was apyrexial with declining inflammatory markers. A week later the

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pain returned and he became generally unwell, inflammatory markers increased, but he remained apyrexial. A pulsatile swelling developed in the anterior compartment of the right forearm. Ultrasound showed a $3.3 \times 3.7 \times 2.6$ cm^3 aneurysm arising from the ulnar artery. CT screening showed no other mycotic aneurysms elsewhere.

Allens test showed an adequate collateral blood flow to the hand supplied by the radial artery. At operation the aneurysm was entered, the thrombus excised and the proximal vessel ligated. Post-operatively the right hand was warm with good perfusion.

The patient made a good recovery and was discharged home. He did not require mitral valve replacement.

Discussion

This case demonstrates that, despite appropriate antibiotic therapy, mycotic aneurysms may still develop secondary to fulminant infective endocarditis even after blood cultures have been sterile. CT scanning of the body cavities would have been wise in this patient as soon as a diagnosis of endocarditis with significant septic embolisation had been made.

The infecting organism in this case was *S. mitis*, which is a *viridans Streptococcus* associated with dental caries. It is an uncommon cause of infective endocarditis. The most common species of oral streptococci causing infective endocarditis are *Streptococcus sanguis*, *Streptococcus oralis* and *Streptococcus gordoni*.[3] There have been no previous reported cases of embolomycotic aneurysms caused by *S. mitis*.

Management of intra-cavity aneurysms is dependent on their location and size. With some inaccessible intracranial mycotic aneurysms parenteral antibiotic treatment alone has been tried with varying degrees of success.[4,5] While antibiotics may sterilize the blood stream the aneurysms harbor a source of infection which can lead to dissemination and rupture. Peripheral aneurysms are much more easily accessible and the best treatment is prompt resection with no graft replacement if possible, due to the risk of re-infection especially with synthetic materials.

In conclusion, we report the first case of an ulnar artery mycotic aneurysm with microbiological confirmation of *Streptococcus* as the infective organism. In patients with fulminant infective endocarditis a diagnosis of mycotic aneurysm should be considered in areas of unexplained pain. CT scanning for hidden aneurysms may be indicated and if found surgical treatment is best.

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